Git and GitHub

1. What is Git?

Answer: Git is **a free and open source distributed version control system** designed to handle everything from small to very large projects with speed and efficiency.

2. What do you understand by the term 'Version Control System'? 3. What is GitHub?

Answer: A version control system is a kind of software that helps the developer team to efficiently communicate and manage (track) all the changes that have been made to the source code along with the information like who made and what changes have been made.

GitHub is **a code hosting platform for collaboration and version control**. GitHub lets you (and others) work together on projects.

4. Mention some popular Git hosting services.

Answer: GitHub , Gitlab , BitBucket , Gitblit , etc.

5. Different types of version control systems. In Answer: a) Centralized VCS: In centralized source control, there is a server and a client. The server is the master repository that contains all of the versions of the code. To work on any project, firstly user or client needs to get the code from the master repository or server. So the client communicates with the server and pulls all the code or current version of the code from the server to their local machine.

b) Distributed VCS: In distributed version control most of the mechanism or model applies the same as centralized. The only major difference you will find here is, instead of one single repository which is the server, here every single developer or client has their own server and they will have a copy of the entire history or version of the code and all of its branches in their local server or machine. Basically, every client or user can work locally and disconnected which is more convenient than centralized source control and that’s why it is called distributed.

6. What benefits come with using GIT?

Answer: a) Track code changes.

b) Track who made the changes like history of the files.

c) Coding collaborations.

7. What is a Git repository?

Answer: A git repository allows performing various operations on it to create different versions of a project. These operations include the addition of files, creating new repositories, committing an action, deleting a repository, etc. These modifications will result in the creation of different versions of a project.

8. How can you initialize a repository in Git?

Answer: By using git init command.